

# JP 5504941 Derwent Record

## Patent Family & English Abstract

1/9/1

DIALOG(R) File 351:Derwent WPI  
(c) 2004 Thomson Derwent. All rts. reserv.

008597748

WPI Acc No: 1991-101780/199114

Related WPI Acc No: 1993-145166; 1995-156563; 2002-076868

XRAM Acc No: C91-043605

XRPX Acc No: N91-078697

**Periodontal implants formed in situ - comprising porous biodegradable polymer**

Patent Assignee: VIPONT PHARM INC (VIPO-N); ATRIX LAB INC (ATRI-N); ATRIX LABS INC (ATRI-N)

Inventor: DUNN R L; ROGERS J A; SOUTHARD G L; TIPTON A J; DUNN R I; TIPTON A I

Number of Countries: 033 Number of Patents: 013

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9101126	A	19910207				199114	B
AU 9060718	A	19910222				199120	
US 5077049	A	19911231	US 89384416	A	19890724	199204	
EP 484387	A	19920513	EP 90911264	A	19900620	199220	
NO 9200302	A	19920124	WO 90US3478	A	19900620	199220	
			NO 92302	A	19920122		
JP 5504941	W	19930729	JP 90510721	A	19900620	199335	
			WO 90US3478	A	19900620		
EP 484387	B1	19940119	EP 90911264	A	19900620	199403	
			WO 90US3478	A	19900620		
DE 69006216	E	19940303	DE 606216	A	19900620	199410	
			EP 90911264	A	19900620		
			WO 90US3478	A	19900620		
AU 653498	B	19941006	AU 9060718	A	19900620	199441	
US 5368859	A	19941129	US 89384416	A	19890724	199502	
			US 91765137	A	19910925		
			US 9384777	A	19930629		
ES 2062540	T3	19941216	EP 90911264	A	19900620	199505	
JP 2685353	B2	19971203	JP 90510721	A	19900620	199802	
			WO 90US3478	A	19900620		
CA 2063729	C	20000404	CA 2063729	A	19900620	200035	
			WO 90US3478	A	19900620		

Priority Applications (No Type Date): US 89384416 A 19890724; US 91765137 A 19910925; US 9384777 A 19930629

Cited Patents: EP 171173; EP 271831; EP 297535; FR 2635685; WO 8901006

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 9101126 A

Designated States (National): AT AU BB BG BR CA CH DE DK ES FI GB HU JP KP KR LK LU MC MG MW NL NO RO SD SE SU

Designated States (Regional): AT BE CH DE DK ES FR GB IT LU NL OA SE

EP 484387 A E 31 Based on patent WO 9101126

Designated States (Regional): AT BE CH DE DK ES FR GB IT LI LU NL SE

NO 9200302 A A61K-006/00

JP 5504941 W 13 A61K-006/00 Based on patent WO 9101126

EP 484387 B1 E 15 A61K-006/00 Based on patent WO 9101126

Designated States (Regional): AT BE CH DE DK ES FR GB IT LI LU NL SE

DE 69006216 E A61K-006/00 Based on patent EP 484387

Based on patent WO 9101126

AU 653498 B A61K-006/00 Previous Publ. patent AU 9060718

US 5368859	A	2 A61F-002/00	Based on patent WO 9101126 Div ex application US 89384416 Cont of application US 91765137 Div ex patent US 5077049
ES 2062540	T3	A61K-006/00	Based on patent EP 484387
JP 2685353	B2	9 A61K-006/00	Previous Publ. patent JP 5504941
CA 2063729	C E	A61L-027/00	Based on patent WO 9101126 Based on patent WO 9101126

**Abstract (Basic): WO 9101126 A**

Biodegradable implants for assisting the regeneration of periodontal tissue in a periodontal pocket, or for retarding apical migration of epithelial cells along the root surface of a tooth, comprise a biodegradable polymer (I) with a porosity of 5-95%, where the porosity is provided by pores with a size of 3-500 microns, provided that the implants are formed in situ.

**ADVANTAGE -** Forming the implants in situ eliminates the need for precise cutting and placement of solid implants. Using biodegradable implants eliminates the need for surgery to remove them.

**Abstract (Equivalent): EP 484387 B**

An in-situ forming biodegradable implant for assisting the restoration of periodontal tissue in a periodontal pocket, comprising: a biodegradable polymer having a porosity in the range of 5 to 95%, wherein the porosity is provided by pores having a size in the range of 3 to 500 micrometers (microns).

Dwg. 0/0

**Abstract (Equivalent): US 5368859 A**

Assisting restoration of periodontal tissue in a periodontal pocket comprises placing a liq. mixt. of a biodegradable, curable, thermosetting prepolymer, (TSP) curing agent and a water soluble material (WSM) into the periodontal pocket. The WSM dissipates into periodontal fluids, the TSP cures in situ by forming covalent bonds to form a water-immiscible thermoset polymer as a solid biodegradable implant and the dissipation of WSM creates pores within the implant of 3-500 microns. The implant has a porosity of 5-95%, the sizes of pores and the porosity are effective to promote cell growth.

The WSM is pref. a sugar, salt or water soluble polymer. Pref. the implant further comprises an antimicrobial, antibiotic or tissue repair mediating agent. The prepolymer is esp. poly(DL-lactide-co-caprolactone).

**USE -** Used for promoting guided tissue regeneration.

Dwg. 0/0

US 5077049 A

A new method to aid restoration of periodontal tissue in periodontal pocket comprises placing a soln. of biodegradable water-coagulable thermoplastic polymer and water-miscible organic solvent in the pocket so that when the solvent dissipates the polymer coagulates to form an in situ solid biodegradable implant with 3-500 (20-200) micron pores created by dissipation of the solvent, giving 5-95% porosity, and being effective to promote cell growth. The polymer may be polylactides, polyglycolides, polycaprolactones, polyamides, polyurethanes, etc. Solvents include N-methyl-2-pyrrolidone, ethanol, propylene glycol etc. The implant may contain antibiotics, and tissue repair mediators e.g. various growth factors. The implant retards migration of cells along a root surface and can be used to guide tissue regeneration in a periodontal pocket.

**ADVANTAGE -** The implant is biodegradable avoiding the need for surgical removal, easy to shape, avoid infection, does not cause immunological problems and prevents epithelial tissue down growth.

**Title Terms:** PERIODONTAL; IMPLANT; FORMING; SITU; COMPRISE; POROUS;  
BIODEGRADABLE; POLYMER

**Derwent Class:** B04; D21; P32; P34

**International Patent Class (Main):** A61F-002/00; A61K-006/00; A61L-027/00

International Patent Class (Additional): A61K-009/70; A61K-031/74;  
A61L-025/00

File Segment: CPI; EngPI

Manual Codes (CPI/A-N): B04-C02A; B04-C02E3; B04-C03; B11-C04A; B12-J01;  
B12-L03; D08-A03

Chemical Fragment Codes (M1):

\*01\* B415 B515 B615 B730 B792 B799 G013 G019 G100 H100 H121 H181 H401  
H402 H441 H442 H481 H482 H589 J011 J014 J171 J273 J321 J373 K630  
K699 L463 L472 L499 L660 L699 L814 L834 M121 M129 M132 M137 M139  
M150 M210 M211 M212 M213 M214 M215 M216 M220 M221 M222 M231 M232  
M233 M262 M272 M280 M281 M283 M311 M312 M313 M314 M315 M316 M323  
M331 M332 M340 M342 M343 M349 M381 M382 M383 M393 M423 M424 M431  
M510 M520 M530 M533 M540 M620 M740 M782 M903 N103 P912 P913 R044  
R051 R052 V713 V735 V743  
\*02\* F011 F012 F423 H2 H211 H7 H713 H721 J5 J521 L9 L941 M210 M212 M273  
M281 M320 M423 M424 M431 M510 M521 M530 M540 M740 M782 M903 M904  
M910 N103 P912 P913 R044 R051 R052 V0 V743 R01849-M  
\*05\* M423 M424 M431 M740 M782 M903 N103 P617 P912 P913 P942 R044 R051  
R052 V600 V641

Chemical Fragment Codes (M2):

\*03\* D011 D012 D013 D021 D022 E570 H5 H521 H541 H8 K0 L7 L721 M210 M211  
M212 M272 M273 M281 M320 M412 M417 M424 M431 M511 M520 M530 M540  
M740 M782 M903 N103 P200 P912 P913 R044 R051 R052 V0 V470 06616  
\*04\* D011 E570 K0 L7 L721 M210 M211 M273 M281 M320 M412 M424 M431 M511  
M520 M530 M540 M640 M740 M782 M903 M904 N103 P200 P420 P912 P913  
R044 R051 R052 V0 V470 R10621-M 06616  
\*06\* A111 A940 C106 C108 C530 C730 C801 C802 C803 C805 C807 M411 M424  
M431 M740 M782 M903 M904 M910 N103 P912 P913 R044 R051 R052 R01287-M  
06616  
\*07\* H4 H401 H481 H8 J0 J013 J1 J173 M280 M313 M321 M332 M344 M349 M381  
M391 M416 M424 M431 M620 M740 M782 M903 M904 M910 N103 P912 P913  
R044 R051 R052 R00419-M 06616  
\*08\* F012 F013 F014 F015 F016 F017 F019 F113 F123 H4 H405 H424 H483 H5  
H521 H8 K0 L8 L814 L818 L822 L831 M1 M126 M141 M280 M311 M323 M342  
M373 M393 M413 M424 M431 M510 M522 M530 M540 M740 M782 M903 M904  
M910 N103 P912 P913 R044 R051 R052 R00135-M 06616  
\*09\* F011 F012 F423 H2 H211 J5 J521 L9 L941 M210 M211 M273 M281 M320 M413  
M424 M431 M510 M521 M530 M540 M740 M782 M903 M904 N103 P912 P913  
Q615 R044 R051 R052 R00585-M 06616

Chemical Fragment Codes (M6):

\*10\* M903 P200 P420 P617 P912 P913 P942 Q615 R044 R051 R052 R200 R220  
R430 06616

Ring Index Numbers: ; 06616; 06616

Derwent Registry Numbers: 0135-U; 0419-U; 1287-U; 1849-U

Specific Compound Numbers: R01849-M; R10621-M; R01287-M; R00419-M; R00135-M  
; R00585-M

?